

THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME
MARINE RESOURCES REGION

REPORT FOR THE MONTH OF SEPTEMBER 1973

During the month of September, the proceeds from the sale of 17,396 pounds of yellowfin, valued at \$4,148.95 were awarded to the Department of Fish and Game by Judge Walter Binns of the Los Angeles Municipal Court, San Pedro. The fish had been seized from the vessel PACIFIC TRADEWINDS for violation of the regulation prohibiting the possession of more than 15% yellowfin tuna during the closed season for that species.

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Northern California crab landings for August totaled 5,489 pounds. The season total of 1.16 million pounds is about 1.40 million pounds less than the previous season's figure. The northern California landings added to the smallest landings ever from central California of 0.34 million pounds, gives a total of 1.5 million pounds for the state. The average landings for the last 20 years are 10 million pounds.

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The southern permit area for anchovy opened September 15 and fishing began a day later. By the end of the month, over 16,000 tons had been landed at Terminal Island and Port Hueneme. San Pedro fishermen found numerous dense schools from Pt. Dume south and had excellent success fishing in the San Pedro Channel. A total of 31 boats have applied for permits to fish anchovies for reduction in the southern permit area.

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Wildlife Protection	3
Bottomfish	5
Shellfish	6
Abalone	7
Lobster	7
Mariculture Research and Development (Bartlett Project 4-20-4). . .	8
Marine Resources Pathology.	9
Special Studies Program	9
Pelagic Fish	10
Big Game Fish	12
Sportfish	18
Sportfish Improvement Project	19
Environmental Services	19
Inshore Fisheries Habitat Evaluation and Monitoring	20
Kelp Habitat Project	20
Diablo Canyon Ecological Survey (P.G.&E. Contract S1902).	21
Vessels	21
Marine Fisheries Statistics	22
Miscellaneous	23
Appendices following	

1. WILDLIFE PROTECTION

- A. Canneries: Tuna landings from American flag vessels remain moderate both from within and outside the yellowfin tuna regulatory area. Import tuna remains very heavy keeping the canneries processing fish in some cases seven days a week.

Very little mackerel has been landed during the month. During the first part of the month most of the local seiners were fishing for either bluefin or bonito.

Anchovy season opened in the southern zone on the 15th and all effort has been placed on this fishery. The local fleet has enjoyed excellent fishing in all areas close to port. The price for anchovies the first week of the season being \$57.50 per ton, and the second week \$48.50 per ton, has put all the efforts into this fishery. Boats have been placed on 50 ton limits from time to time to allow the processors to catch up. However, most of the time processors are reducing two-day old fish. Approximately 9,000 ton a week are being reduced and if the trend keeps up it is expected the quota will be filled some time in December.

One seiner (SUNSET) was lost during the month, having run aground north of Port Hueneme. As of now, it is considered a total loss.

- B. Market Fish: In southern California, white sea bass taken by gill netters decreased along the coast with many boats curtailing their efforts during the last two weeks of the month.

Local broadbill fishing slowed during September, however, a few fish are still being taken. Prices have increased from \$1.25 lb. to \$1.45 lb. and broadbill plank boats ranging between Catalina and the Channel Islands are picking up no more than one or two swordfish per trip. Boats out of San Diego report very few broadbill taken in extreme southern areas.

Lobster fishermen are preparing for the upcoming lobster season in October. The lobstermen are having considerable difficulty procuring wire for traps because of embargo restrictions, steel strikes and wholesaler backorders. Some lobstermen are forecasting problems with trap stealing because of the wire shortage.

Abalone deliveries continue heavy and applications for sea urchin permits are increasing in number.

Salmon prices in Bodega Bay hit an all time high with large salmon going at \$1.50 lb. and all other salmon at \$1.30 lb. Commercial takes of surf smelt in north coast areas were very good during the month.

Procurement of imported catfish from Texas and Louisiana reached a new low in September. Tropical storms and hurricanes off the Texas Gulf prevented catfish breeders from working their ponds.

- C. Sportfishing: Yellowtail catches decreased in the southern California area although fish were abundant. The lack of suitable bait was the main reason for lack of angler success. Bonito and yellowtail have moved into Santa Monica Bay areas providing good sport for many fishermen. There has been an overall increase in sportfishing pressure and license sales due to higher food prices.

Salmon and striped bass fishing is on the upswing in San Francisco Bay, but generally slower elsewhere in the state. Rockcod makes up the major portion of catches from other central coastal areas as far south as Oxnard.

Spotted and sand bass fishing continued good in Newport and San Diego Bays.

Low tides during the month provided clam diggers with good access to prime areas.

- D. Weather: Weather was generally conducive to fishing activities along most of the coast with some rough seas and heavy swells limiting patrols mainly in central California areas.
- E. Law Enforcement: During the first two weeks of September, continued patrol of the southern anchovy reduction area was needed to discourage taking of fish in the closed area. The September 15th opening of the southern zone permitted use of patrol vessels for other activities and the abundance of anchovies in the southern area has decreased the need for patrols within closed areas along the coast.

Arrests and patrol attention continued to increase in northern and central coastal areas for undersize commercial salmon violations and sport rockfish overlimits.

Complaints of shallow water abalone diving in the Channel Islands is still a problem due to manpower shortages. The P/B RAINBOW made one such case in the Avila area.

Increase in patrol for lobster violations involving divers and traps was also hampered by lack of personnel.

The net and fish seized from a drag boat caught inside the three-mile limit off Crescent City was forfeited to the Department. A \$250. fine was paid and 746 pounds of fish valued at \$107.00 were sold.

During the month of September, the proceeds from the sale of 17,396 pounds of yellowfin valued at \$4,148.95 were awarded to the Department of Fish and Game by Judge Walter Binns of the Los Angeles Municipal Court, San Pedro. The fish had been seized from the vessel PACIFIC TRADEWINDS for violation of the regulation prohibiting the possession of more than 15% yellowfin tuna during the closed season for that species.

Marine patrol activities were limited during the first and last weeks of the month due to assignment of wardens to dove and deer season openings.

F. Pollution: Marine wardens investigated 28 spills during the reporting period. Industrial polluters accounted for eleven spills of 215 barrels. Nine merchant vessels spilled a total of five barrels of pollutants. The U. S. Navy had one spill of two barrels. Rounding out the total, unknown sources were responsible for eight spills of ten barrels; the U. S. Coast Guard picked up the cleanup tab for two of these spills.

There were three complaints issued for violations of 5650. The one successful prosecution for the month brought a \$1000.00 fine for a Section 5650 violation in the Long Beach Harbor.

2. BOTTOMFISH

A. Fishery

Flatfish: Bottomfish prices to fishermen increased to an all time high on September 1. Prices increased 10 to 15% and range from 5¢ for grenadier to 50¢ per pound for California halibut. Petrale, English, and Dover sole prices per pound increased to 21.5, 18.5, and 11.75¢, respectively.

At northern California ports, Dover sole remained the primary species in landings. Moderate catches of English and petrale sole were landed along with light catches of rex sole and Pacific sanddab.

At central California ports, English sole and petrale sole were the predominant flatfish in landings. Rex sole and sanddab catches were light.

Roundfish: Sablefish and rockfish landings were good throughout the month at northern ports. Bocaccio and chilipepper rockfish were the predominant species. Monterey fishermen had difficulties locating concentrations of rockfish in trawls off Point Sur and Santa Cruz where quantities of large jack mackerel were caught.

Several gill netters have begun to fish for roundfish in the Monterey area.

B. Research

Flatfish: Routine tasks of market sampling and logbook-ticket editing were accomplished.

Tag recoveries caught near release areas included 10 Dover sole released off Eureka in 1969 and 1971, and 2 petrale sole released off Fort Bragg in 1964. A distant recovery was an English sole released in Puget Sound by the University of Washington and caught off northern California.

Roundfish: Jow participated in a U.S.S.R. acoustic and trawl survey of hake and rockfish stocks off the U.S. west coast. The SESKAR, a 190-foot side trawler, will complete a six month cruise on October 15. During our participation from September 2 to 17, the SESKAR surveyed the area between Coos Bay, Oregon and Santa Cruz. Cruise tracks perpendicular to the coast six miles apart from 4.5 miles off shore to 500-600 meters (273-328 fathoms) were surveyed with acoustic equipment. Within this area, 37 trawls of 30 to 60 minutes duration were made in depths between 50 and 500 meters (27-274 fathoms). Seventy-seven fish

species were taken in the trawls; Pacific hake, sablefish, Dover sole, rex sole, and rockfish (25 species) were the predominant species in catches. The acoustic survey indicated that hake and rockfish were present generally from 80 to 200 meters (43 to 109 fathoms). Acoustic data are transmitted to Vladivostok for detailed analyses.

3. SHELLFISH

A. Fishery

Crab: Season closed statewide.

Northern California crab landings for August totaled 5,489 pounds. The season total of 1.16 million pounds is about 1.40 million pounds less than the previous season's figure. The northern California landings added to the smallest ever landings from central California of 0.34 million pounds gives a total of 1.5 million pounds for the state. This is the lowest statewide seasonal total since the 1918-19 season. The average landings for the last 20 years are 10 million pounds.

Shrimp: Shrimp landings in Area A totaled 971,088 pounds through mid-month. One vessel made two trips, landing a total of 700 pounds.

No landings were made in Areas B-1, B-2 or C.

Oysters: Coast Oyster Company reports their harvest to be increasing. All of the 4,000 gallons opened this month came from their hanging culture and the oysters are reported to be in exceptionally good condition for this time of year.

The oyster harvest is up in Drakes Estero due to low summer mortality.

B. Research

Crab: In central California the majority of the month was spent aboard the N. B. SCOFIELD conducting a crab cruise. Preliminary examination of the data reveals that the 1973 cruise produced more and larger legal sized males and far fewer sub-legal males than the 1972 cruise. Many more crabs of the year were caught in 1973 than in 1972.

Final preparations were made for the October crab cruise off northern California. Spar buoys were constructed and lines and bait jar fixtures were prepared for the crab traps.

Monthly trawling operations were conducted in south Humboldt Bay for crab relative abundance studies.

Shrimp: Because of the lack of shrimping activity no shrimp samples were obtained for this period.

Oysters: Mortality among experimental and commercial populations of Pacific oysters has been negligible.

C. Miscellaneous Activities

One week was spent writing the coastal wetlands report for the Smith River estuary.

4. ABALONE

The project's cruise aboard the KELP BASS during September, was scheduled to tag greens at San Clemente Island; however, rough waters at the south end and Naval underwater demolition exercises at Northwest Harbor precluded safe diving operations. Operations were moved to Santa Cruz Island. An additional 320 pinks were tagged at our Gull Island study site, increasing the tagged pink population there to 908. At Yellow Bluffs we tagged 751 pinks in 25-30 foot depths.

Cumulative tagging loss at Gull Island, including 183 not returned due to bad cuts and 82 lost to predators is 34.4 percent.

One day was spent assisting the Diablo Canyon project buoying permanent study stations south of Diablo Cove.

Several days were spent planning a randomized depth-stratified abalone survey for China Point, San Clemente Island.

5. LOBSTER

Daily lobster fishing logs were received from the printer and distributed to license offices at Long Beach and San Diego. This was in compliance with the Fish and Game Commission's decision that all commercial lobster fishermen must prepare a daily fishing log. The log must be submitted to the Department once a month.

Fish dealers with the largest trade in spiny lobsters were contacted to prepare for a sampling program. Characteristics to be sampled include carapace length, shell condition and sex composition.

Several lobster fishermen were contacted. Interviews included discussion of industry problems, gear design and limited entry. Trap robberies appear to be injuring the fishery to a most serious degree in the fishermen's estimation.

Plans were drawn for overflights of lobster fishing areas during the opening week. The season begins Wednesday, October 3.

It is presumed the flights will determine areas receiving the greatest fishing effort. An atlas is in preparation to display the results.

Initial plans were drawn to process catch/effort information from logs. An accounting system to process logs was prepared.

Tagging efforts were initiated at San Clemente Island to gain some insight into the structure and dynamics of the lobster population there. During four nights of fishing from the R/V KELP BASS, 563 lobsters were captured in 85 trap-nights. Only 6.4 percent of the lobster taken at San Clemente were legal size.

6. MARICULTURE RESEARCH AND DEVELOPMENT (Bartlett Project 4-20-4)

Phase II of our study to develop a resistant strain of Pacific oyster was successfully launched on September 17 with an excellent spawning. Breeders consisted of mature offspring (F-1 generation), that had been hatched at Granite Canyon in February 1972 and reared in Drakes Estero. Approximately 14 million trochophore stage larvae were collected: six million of these F-2 generation progeny obtained the veliger stage and are being cultured. The larval developmental period to settlement is approximately 22 days, at 28-30°C.

A sample of commercially grown Pacific oysters of similar age as our F-1 generation was collected in Drakes Estero and was also induced to spawn in the laboratory. These progeny will be distributed in Drakes Estero, along with our F-2 generation, to serve as a control for evaluation of our strain.

Pacific Mariculture, a privately owned oyster hatchery located at Pigeon Point, has, of late, been experiencing difficulty in rearing commercial quantities of oyster larvae. We spent considerable time with them, examining possible causative factors of their excessive oyster mortality levels. Filtered seawater from our laboratory was tested with their oyster larvae; however, mortality levels remained high. Other possible sources of larval contamination at Pigeon Point are being explored.

Algae culture production was stepped up to provide sufficient forage for the Pacific oyster larvae. Species being fed to the larvae are the unicellular flagellates, *Isochrysis galbana*, and *Monochrysis lutheri*.

Spot prawn samples, representing three year classes hatched and reared at Granite Canyon, were measured during the month and yielded the following values:

<u>Year</u> <u>Class</u>	<u>\bar{X} Carapace</u> <u>Length (mm)</u>	<u>\bar{X} Total</u> <u>Length (mm)</u>	<u>\bar{X} Weight</u> <u>(g)</u>
1971	30.2	142.2	18.4
1972	26.5	124.8	12.1
1973	7.7	33.3	0.3

A sample of 18 adult red abalones was obtained through the efforts of the Diablo Canyon Ecological Survey project members. Inclusive in the sample were three relatively mature female specimens. One female was induced to spawn by using thermal shock techniques but the eggs did not develop upon being fertilized. Male abalones freely released sperm upon being subjected to thermal stimulus.

6. MARICULTURE RESEARCH AND DEVELOPMENT (continued)

One spiny lobster commenced hatching larvae on September 1 at a water temperature of 17°C. However, other commitments prevented our working with the larvae.

A steel framework to assist in pulling our main submersible pumps was installed in late August. Paul Petrich provided technical assistance and had the framework fabricated.

7. MARINE RESOURCES PATHOLOGY

The examination of samples collected from south Humboldt Bay during August was completed. Neoplastic-like lesions were noted only among the English sole with 6 of 1,457 fish examined showing the affliction.

Samples were collected from Santa Monica Bay and the area from the Russian River to San Francisco. The central California samples are being processed. Examination of the Santa Monica Bay sample showed 2.1% of the Dover sole with neoplastic-like lesions.

Routine histological examination of seed oysters (*Crassostrea gigas*, *Crassostrea commercialis*, *Crassostrea virginica*, and *Ostrea edulis*) and seed clams (*Tapes semidecussata*) from Pacific Mariculture, Inc. was carried out during September.

8. SPECIAL STUDIES PROGRAM

Most of the month was spent on the sea otter report. A first draft (except for references and appendices) was submitted for Regional review during the month. Work is continuing on the references and appendices.

Some time was spent arranging for delivery of sea otter carcasses to institutions which have been issued permits for these animals.

Ames assisted with abalone tagging operations at Santa Cruz Island during the week of September 16-21.

9. PELAGIC FISH

A. Fishery

<u>Landings in tons</u>		<u>January 1 - September 30</u>			
<u>Species</u>	<u>1973*</u>	<u>1972</u>	<u>1973*</u>	<u>1972</u>	<u>10 yr. mean 1962-1971</u>
Anchovy	20,830	2,001	66,137	36,724	14,763
Mackerel, jack	56	6,715	7,020	23,646	20,903
Mackerel, Pacific	-	0	1	26	4,138
Sardines	-	18	54	134	1,620
Squid	-	54	3,744	9,901	8,344
TOTAL	20,886	8,788	76,956	70,431	49,768

*Estimated. Accumulated landings are revised monthly.

B. Fishery Research Monitoring

Anchovy: At Monterey one purse seiner and ten lampara boats are fishing for anchovies. They landed 1,005 tons during the month.

Before September 15, several purse seiners landed anchovies at southern California ports but reported catching the fish just north of Pt. Conception.

The southern permit area opened September 15 and fishing began a day later. By the end of the month over 16,000 tons had been landed at Terminal Island and Port Hueneme. San Pedro fishermen found numerous dense schools from Pt. Dume south and had excellent success fishing in the San Pedro channel. A total of 31 boats have applied for permits to fish anchovies for reduction in the southern permit area.

Before the southern season opened, fishermen received \$57.50 per ton for anchovies. This was for fish landed in southern ports although reportedly caught in the northern permit area. Just before the beginning of the southern season however, local anchovy meal prices dropped from \$520.00 per ton to \$406.00 per ton, and the price of anchovies dropped to \$52.50 per ton. At the end of the month, fishermen were receiving \$48.50 per ton.

Jack Mackerel: Jack mackerel landings were very low during the month. Some fleet effort was expended early in the month on mackerel but most of the fleet concentrated its efforts on bonito and anchovies. Since the southern anchovy season opened, the entire fleet has concentrated on anchovies.

Live Bait: Early in the month live bait fishing was sporadic in San Diego and Newport Beach and only fair in Los Angeles. Following Labor Day, however, the demand for live bait dropped sharply and

fishermen experienced few problems meeting their commitments. Throughout the month small fish-of-the-year continued to dominate most catches especially those south of Santa Monica Bay.

C. Biological Studies

Jack Mackerel Tagging Program: A total of 363 jack mackerel and 20 Pacific mackerel was tagged in September. The majority of the jack mackerel was caught at Farnsworth Bank and displaced to San Mateo Pt. aboard the ALASKA. Most of the Pacific mackerel were tagged at Redondo Beach. There have been six jack mackerel and six Pacific mackerel tag returns this month. Most of these returns indicated no significant movement over short periods of time although one Pacific mackerel moved from San Clemente Island to Pt. Loma in 30 days.

D. Fisheries Resources Sea Survey (M63R)

An anchovy acoustic survey in southern California waters last month found anchovy schools sparse and widely scattered south of San Pedro. The bulk of the population was concentrated in medium to large schools in the north over San Nicolas Basin, Santa Monica Basin, and in Santa Barbara Channel. Commercial fishermen experienced excellent fishing in the latter two areas when the season opened September 15.

School behavior over the basins was highly unusual for this time of year with schools occurring at or near the surface during daytime.

Analysis of sonar data collected during this cruise indicates the high anchovy abundance detected in 1972 and the first half of 1973 is continuing. A strong 1973 year class was evidenced by unusually large quantities of "pinhead" anchovies in shallow inshore areas. Underwater observations and photographs were made of schools of these fish for school density studies.

Timely acquisition of a computer contract this year has enabled us to edit and compile publishable data reports on all data collected on sea survey cruises during 1973.

Sea Survey Data Analysis: A manuscript describing the age composition of the jack mackerel catch for the 1957-58 through 1961-62 seasons was completed. Knaggs, working jointly with Bob Lea, is preparing a manuscript on range extensions, unusual occurrences, and other distributional data of fishes taken recently on Sea Survey cruises.

Murphy Method estimation of fishing mortality rates of Pacific mackerel continued.

Sea Survey night-light survey data since 1950 are being examined for correlation with independent sardine biomass estimates.

10. BIG GAME FISH

A. Albacore - Research

Life History: Age and growth--Program personnel took 71,000 length measurements and 200 scale samples from fish landed in California. In addition, 500 length samples were taken from fish trucked from Oregon and Washington.

Analysis revealed that a larger proportion of 2 year old fish were caught off the California coast than in August.

Migration--So far this year, 21 tags have been returned. All were tagged in 1971 and 1972. They show wide dispersal of the fish from an area 850-1000 miles west of San Pedro where many of the tagged fish were released to points scattered along the coast but recoveries have been concentrated from areas off Astoria, Oregon and Morro Bay, California.

Population Dynamics: Project personnel obtained 131 logs from albacore fishermen at Terminal Island and Morro Bay. It is hoped that additional logs will be obtained from cooperating fisheries management personnel in Oregon and Washington.

Fisheries

Sport: Sport boats out of Morro Bay have enjoyed the only albacore sport fishing this season. They have consistently caught between 1 and 3 fish per angler while fishing about 40-60 miles south-west of Morro Bay with only short interruptions due to bad weather.

Commercial: Although low scores have been reported along nearly the entire California coast, fishing has been generally limited to the waters off Morro Bay and to a short-lived bite near the Gorda Sea Valley during the middle of the month. Catches 40-120 miles off Morro Bay were as high as 300 fish/day for bait and jig boats. However, average daily jig and bait boat scores were probably less than 100 fish/day.

B. Bluefin Tuna - Research

Life History: Age and growth--Three length-weight-scale samples were obtained from bluefin landed at Terminal Island canneries in September from fish caught in July and August.

Fisheries

Sport: Fair to good catches of bluefin tuna were reported by San Diego partyboats in September. Preliminary figures indicate that 652 bluefin were caught in August by partyboat anglers bringing the cumulative catch for this year to 4,667 the cumulative catch for the same period in 1972 was 564 fish.

Commercial: About 40 tons of bluefin were caught and landed during the month of August by local and high seas purse seiners. No landings of bluefin were reported landed at the fresh fish markets in September.

Meetings: Time was spent in preparing a summary talk of the 1973 California bluefin tuna fishery to be presented at the twenty-fourth Tuna Conference held this year at Lake Arrowhead in October.

C. Bonito - Research

Population Structure: A total of 124 eye lenses was collected this month for population analysis by electrophoresis.

Life History: Age and growth--Eight weight-length-otolith samples were collected from bonito landed at the Terminal Island canneries.

Migration--In September, 44 bonito were tagged and released from partyboats in the area from the Coronados Islands to Long Beach. Seventeen tags were returned this month.

The R/V ALASKA returned from a 5-day trip in southern California waters. Project personnel experimentally tagged 2 bonito and held them onboard in the bait tank. Both fish died within 36 hours.

Resource Management: Partyboat sampling--In September, 188 bonito were measured. They ranged in size from 46 to 66 cm. Preliminary results indicate that anglers caught two age groups (I and II) this month, with one year old bonito providing 77% of the catch. Fishing effort was 14% greater in August than in July, while the catch (92,570) was 5% greater in August than in July (87,784). The abundance index (1.00) for August indicates that anglers found bonito almost as abundant as during July when the index was 1.02.

<u>SEPTEMBER</u>		<u>% age composition</u>	<u>AUGUST</u>	
<u>Age group</u>	<u>% age composition</u>		<u>Estimated catch (nos)</u>	<u>Abundance index</u>
0	0	0	0	0
I	77	96	88,867	.96
II	23	3	2,777	.03
III	0	1	926	.01
			92,570	1.00

Market Sampling--One length-frequency sample was taken from the fresh fish markets in San Diego. The 129 fish were in the 46 to 75 cm range.

<u>SEPTEMBER</u>	
<u>Age group</u>	<u>% age composition</u>
0	0
I	59
II	3
III+	38

Fisheries

Sport: Catches of bonito were good in southern California.

Commercial: The local fleet landed over 1,000 tons of 4 to 15 lb bonito. These fish were caught from off Del Mar to off Santa Barbara City. More than 400 tons of bonito were caught in Mexican waters and unloaded in San Diego.

D. Billfishes - Fisheries

Sport: Six broadbill were landed during the week-long Channel Island's Billfish Tournament. This compares poorly with the 1972 tournament total of 18 fish. The largest fish at this year's tournament weighed 423 lbs whole-weight and was the first fish caught.

Commercial: Due to poor weather conditions and unavailable fish during September, the fleet only spent about 15 days fishing. The price to the fishermen increased to \$1.35 per pound on an average carcass of 213 pounds. An estimate of 500 fish caught during September may be on the conservative side.

Resource Management: Market sampling--Broadbill swordfish landed at the fresh fish markets were sampled in September. The 70 fish measured ranged from 1145 mm - 2005 mm in carcass length and 87-396 lbs in weight.

	<u>SEPTEMBER</u>	<u>AUGUST (47)</u>
<u>Weight group</u>	<u>% weight composition</u>	<u>% weight composition</u>
< -100	1	0
100-150	11	4
151-200	32	17
201-250	36	28
251-300	9	19
> -300	11	32

The smaller fish came from a good run of fish near the east end of Catalina Island.

E. Barracuda - Research

Life History: Migration--A total of 8 barracuda were tagged and released aboard southern California partyboats in September. Another 102 barracuda were captured, tagged and held in tanks aboard the R/V ALASKA for the purpose of determining rates of tag shedding and tag mortality. The fish were transferred to Marineland for observation at the end of the cruise. Mortality on these fish was as high as 50%.

Six tagged barracuda were recovered during September. Three of these moved north and three moved south of their release points.

Resource Management: Partyboat sampling--Samplers aboard partyboats during September measured a total of 7 barracuda. These fish ranged in size from 45 to 79 centimeters total length (average = 52 cm) and II to VII years in age.

Preliminary results indicate that age group II provided nearly 86% of the catch in September. Sampling in September also indicates II, IV and VII year old fish provided a larger percent of the catch than in August, while all other age groups provided a smaller percent of the catch than in August.

Figures for September are incomplete; however, the fishing effort in August was 14% greater than during July, yet anglers caught 33%

fewer barracuda. In addition the abundance index of 1.35 for August indicates that partyboat anglers found barracuda less abundant than during July when the abundance index was 3.14.

About 85% of the barracuda caught aboard partyboats during September were shorter than the legal limit and were released. In August about 84% were released.

<u>SEPTEMBER N=7</u>		<u>AUGUST N = 152</u>		
<u>Age group</u>	<u>% age composition</u>	<u>% age composition</u>	<u>Calculated catch*</u>	<u>Abundance index</u>
I	0	0	0	0
II	86	14	17,500	0.189
III	0	21	26,058	0.281
IV	0	44	54,738	0.591
V	2	16	20,292	0.219
VI	8	3	3,797	0.041
VII+	4	2	2,739	0.030
			125,124	1.351

* Includes released fish

Small barracuda 39-49 cm caught off southern California during a recent Department research cruise support evidence from the partyboat fleet of an abundance of young fish.

Market sampling--Sampling of southern California fish markets produced only 1 fish measurement. However, samples of barracuda caught incidentally by bait boats in September were measured. These 146 fish ranged from 38 to 73 cm in length and I-VII years in age.

<u>SEPTEMBER N = 146</u>		<u>AUGUST N = 0</u>
<u>Age group</u>	<u>Percent</u>	---
I	5	No Sample
II	29	
III	31	
IV	30	
V	4	
VI	1	
VII	0	

Fisheries

Commercial: No commercially caught barracuda have been reported landed for the month of September.

Sport: Barracuda sport action declined considerably in September as yellowtail and bonito became available in numbers.

F. White Seabass - Research

Resource Management: Partyboat sampling--Only four white seabass were measured this month. They were all caught by the long range boats fishing off Baja California. All were VI years old or older.

Figures for September are incomplete; however, the fishing effort in August was 3% lower than July and anglers caught 51% less white seabass. In addition, the abundance index of 0.007 indicates that partyboat anglers found white seabass less abundant then than during July.

<u>SEPTEMBER</u>		<u>AUGUST (8)</u>
<u>Age group</u>	<u>% age composition</u>	<u>% age composition</u>
0	-	-
I	-	25
II	-	38
III	-	25
IV	-	12
V	-	-
VI	25	-
VII	-	-
VIII	25	-
IX	-	-
X	-	-
XI	25	-
XII	-	-
XIII+	25	-

Market sampling--White seabass landed at the fresh fish markets were sampled in September. The 24+ fish measured ranged 81 to 124 cm in length and V to XIII years in age. Preliminary results indicate that age groups VI, VII and XI provided about 50% of the catch.

<u>SEPTEMBER</u>		<u>AUGUST (85)</u>
<u>Age group</u>	<u>% age composition</u>	<u>% age composition</u>
0	-	-
I	-	-
II	-	-
III	-	-
IV	-	-
V	4	-
VI	17	-
VII	17	-
VIII	8	6
IX	13	16
X	8	25
XI	17	26
XII	13	9
XIII	4	18

Fisheries

Sport: Some catches were made at most ports during the month.

Commercial: By month's end the majority of the gill netters had stopped fishing for white seabass.

G. California Yellowtail - Research

Resource Management: Partyboat sampling--Yellowtail caught by the partyboat anglers were sampled in September. The 467+ fish measured ranged 52 to 126 cm in length and I to XII+ years in age.

Preliminary results indicate that anglers set their hooks in 11 age groups of yellowtail this month with groups III to V providing about 69% of the catch. By comparison these age groups contributed 45% in August and an equal 45% in July.

Figures for September are incomplete; however, the fishing effort in August was 13% higher than July and anglers caught 628% more yellowtail. In addition, the abundance index of 0.307 for August indicates that partyboat anglers found yellowtail more abundant then than during July.

		<u>AUGUST (237)</u>		
		<u>SEPTEMBER</u>		
<u>Age group</u>	<u>% age composition</u>	<u>% age composition</u>	<u>Estimated catch (nos)</u>	<u>Abundance index</u>
0	-	0	-	-
I	6	23	6,557	0.071
II	10	24	6,842	0.074
III	23	27	7,697	0.083
IV	19	10	2,851	0.031
V	27	8	2,280	0.025
VI	12	6	1,710	0.018
VII	1	1	285	0.003
VIII	1	1	285	0.003
IX	-	-	-	-
X	0	-	-	-
XI	0	-	-	-
XII+	1	-	-	-

Market sampling--Yellowtail landed at the fresh fish markets were sampled in September. The 37+ fish measured ranged 54 to 98 cm in length and I to VIII years in age. Preliminary results indicate that age groups I, III and V provided almost 70% of the catch.

SEPTEMBER

<u>Age group</u>	<u>% age composition</u>
0	-
I	19
II	11
III	19
IV	5
V	32
VI	8
VII	3
VIII	3
IX	-
X	-
XI	-
XII+	-

Fisheries

Sport: Fishing was better this month than last with the best catches at the Coronados Islands.

Commercial: Some yellowtail were taken by commercial fishermen this month.

11. SPORTFISH

A. Partyboat

The catch through August compared with 1972 was down for the following species: kelp and sand bass 97,000 fish, Pacific mackerel 30,000 salmon 28,000, striped bass 3,400 and sturgeon 360. Landings increased for rockfish by 61,000 fish, bonito 328,000, yellowtail 123,000, barracuda 41,000, and California halibut 1,215.

An additional 59,000 anglers captured 375,000 more fish than for the same period last year. Increased anglers and catch may have been caused by the meat shortage and higher prices.

The cumulative preliminary catch and effort for key marine species through August compares with 1972 as follows:

<u>Through August</u>	<u>1973</u>	<u>1972</u>	<u>Preliminary catch August 1973 only</u>
Rockfish	2,286,175	2,225,428	426,485
Kelp & sand bass	552,946	650,680	125,779
Bonito	378,519	50,618	92,570
Pacific mackerel	165,419	195,547	53,125
Yellowtail	151,905	28,777	28,507
Barracuda	70,682	29,819	19,861
Halfmoon	152,580	136,021	19,504
Salmon	95,771	124,659	17,730
Striped bass	6,725	10,121	2,916
California halibut	7,452	6,237	1,158
Sturgeon	405	765	40
Total fish	4,124,941	3,750,062	854,635
Total anglers	615,054	556,377	133,109

B. Central California Marine Sportfish Survey

Aging and otolith reading studies are being finalized on kelp greenling. Meristics, stomachs and gonad analysis are being continued.

A skindiving meet at Anchor Bay was attended by project personnel. Gonads, stomachs, otoliths and measurements were recorded. A total of 50 kelp greenlings and 1 rock greenling was returned for meristics.

Work continued on submitting the skindiving analysis for publication.

Bulletin 158 was submitted to Long Beach for final editing.

Miller spent 8 days on vacation.

12. SPORTFISHING IMPROVEMENT PROJECT

Sportcatch Assessment: About 45 man days were spent on piers, docks, beaches and skiff landings sampling anglers catches for species counts and length frequencies. Angling effort fell off rapidly following Labor Day.

General: The first draft of a booklet "How to Prepare Marine Fish for Cooking" has been completed. The first draft of a hand-out, intended for the anglers tackle box library, answers questions concerning the length-age-weight factors of at least ten popular marine game fish. Information concerning the life history of the redfish, *Sciaenops ocellatus*, was received from Louisiana State University, University of North Carolina, South Carolina Wildlife and Marine Resources Department, and Texas Parks and Wildlife Department. The main impression conveyed by all correspondence is that the life and habits of this species is not well known. There are many more questions than answers. Where have we heard that one before?

13. ENVIRONMENTAL SERVICES - Southern California

A. Water Quality and Pollution Control Activities

Regional Board Activities: Three waste discharge requirements were reviewed and comments were provided for a discharge of cooling water into San Diego Bay recommending thermal monitoring of receiving waters.

B. Water Development Activities

Army Corps of Engineers: Public Notice Reviews--Four project proposals were reviewed. Extensive comments and recommendations were provided on offshore drilling on the Santa Ynez Unit in the Santa Barbara Channel. Comments and recommendations were also made on the development of the Long Beach Marina in Los Cerritos Channel.

State Lands Commission: No comments were necessary on the improvement of the launching ramp at Ventura Marina.

Coastal Zone Commission: Several Coastal Zone Commission meetings were attended.

ENVIRONMENTAL SERVICES - Northern California

A. Water Quality and Pollution Control Activities

Regional Board Activities: No waste discharge permits were received.

A workshop was held with the Regional and State Boards, Fish and Game, Basin Planners, and various industries concerning toxicity regulation in San Francisco Bay Basin in Oakland on September 23.

Bioassay Laboratory: Final design plans prepared by the engineering section were reviewed. Efforts continue regarding the necessary permits with the Central Coast Regional Water Quality Control Board and the South Central Coastal Zone Conservation Commission.

B. Water Development Activities

Army Corps of Engineers: Sixteen public notices were reviewed; none required preparation of comments.

Working papers for maintenance dredging of Santa Cruz and Moss Landing Harbors were reviewed and then informally discussed with a Corps of Engineers' representative. A draft environmental impact statement for Noyo River maintenance dredging was reviewed and comments were prepared recommending change in the priority of proposed alternate spoils disposal sites to avoid the loss of riparian habitat.

Miscellaneous: An environmental impact statement for increased berthing in Monterey Marina and regulations for a vessel traffic system for portions of San Francisco Bay were reviewed. Neither report required preparation of comments.

14. INSHORE FISHERIES HABITAT EVALUATION AND MONITORING

The final two reports for Regional Water Quality Control Board contracts were completed this month and are ready for final editing. These surveys were of brine discharges at Huntington Beach and the Orange County Sanitation District's Discharge off the Santa Ana River.

Six man days were devoted to abalone tagging efforts at Santa Cruz Island, and 10 man days were spent studying lobster at San Clemente Island aboard the KELP BASS.

15. KELP HABITAT PROJECT

The project received its new boat this month. It is a 23 foot Penn-Yan with an inboard engine. Approximately 25 man days were spent preparing the boat for diving.

Craig Staude, a graduate of the University of Washington participating in the Navy's Project Transition Program, will assist the Kelp Project for 3 months.

The first week of September was spent aboard the R/V KELP BASS transplanting kelp. A total of 167 plants was transplanted to Abalone Cove.

Wilson assisted DJ F22 in collecting fishes at Catalina Island on September 12.

Haaker assisted personnel at Seaworld in collecting fishes from under offshore kelp paddies.

The youngest halfmoon caught to date, less than an inch in length, were collected for our life history studies.

Three days were spent diving at Abalone Cove maintaining transplants and preparing for kelp transplants. Our transplants are looking very well. Most kelp plants appear healthy and are growing rapidly. The unusually good condition of the transplants may be

the result of the cold upwelling water which has been characteristic in the cove. Although many kelp grazing fish are present, grazing does not seem to be heavy at this time. Our major problem is anchoring the chains to which the transplants are attached. The kelp plants are so buoyant that the chains are being lifted off the bottom and tangling in one another. We are also running out of chains on which to tie new transplants. More anchor chains will be procured.

16. DIABLO CANYON ECOLOGICAL SURVEY (P.G.&E. Contract S1902)

Work continued during the month on the Mendocino final report; all sections are nearly complete. Two diving surveys were made at Diablo Canyon--the first on the 2nd through the 5th, and the second from the 24th through the 27th.

Suzanne Benech, a senior at Cal Poly, San Luis Obispo, joined our project this month as a seasonal aid. She will be responsible for surveying the urchin and abalone fisheries in the Morro Bay-Avila area and collecting data on sea otters and *Nereocystis* populations in the Diablo Cove area. She will also aid in our subtidal and intertidal studies.

17. VESSELS

ALASKA: From September 17 through the 21st, the vessel was engaged in a barracuda tagging off southern California. The balance of the month the crew was on CTO.

N. B. SCOFIELD: From the 5th through the 23rd, the vessel was engaged in a crab study off San Francisco. The balance of the month the crew was on CTO.

KELP BASS: From the 4th through the 7th, the vessel was engaged in a kelp transplant from Catalina to Palos Verdes Peninsula. From the 17th through the 27th, the KELP BASS conducted an abalone/lobster study off southern California islands.

Balance of the month the vessel was available for maintenance.

18. MARINE FISHERIES STATISTICS

A. Source Documents

The following source documents were edited: August cannery, and marine sport catch logs, June market.

Editing is in progress on the following source documents: July market, trawlers and shrimp; July and August bait; September cannery and marine sport catch.

The August marine sport catch letter was prepared and mailed. The August striped bass list was prepared and mailed. Delinquent partyboat lists were prepared and mailed to enforcement personnel.

Copies of logs for two partyboats were prepared for the owners.

B. Machine Data Processing

Routine reports completed were: June trawlers, September marine sport catch series, July and August cannery, July and August jack mackerel, August anchovy reduction, and August processors.

Special runs and jobs completed were: egg and larval data deck for Lee Miller, 1970 bluefin log abstract deck for Rob Collins, 1973 salmon sampling deck for Linda Fry, employee alpha list for Jim White and sea survey deck for cruise 73-A-6.

C. Licenses and Registrations

Master list changes were sent to Sacramento and the field offices. The September list of unregistered boats making deliveries was sent to the patrol captains.

The fourth supplement to the shrimp permittee list was prepared and mailed.

D. Information

Routine statistical reports were decoded and distributed. The August tuna letter was prepared and mailed.

Work is in progress on a large request for both sport and commercial block catch data for about 80 blocks for eight years for the Ventura-Santa Barbara-San Luis Obispo Counties Coastal Commission.

E. Fishery Surveillance

The month of September saw the arrival of our order for the revised northern California market receipt books. As a result an extensive trip through northern California was made to issue these books and secure unused cannery books. The trip resulted in the issuance of 140 market receipt books and contact with 33 dealers. General acceptance of the books was very good with almost all dealers seeing a vast improvement in the revised edition.

F. NMFS Commercial Fisheries Survey

Work continues on preparation of mailing labels for this years questionnaire survey. Questionnaires have been prepared and mailing envelopes ordered. Formats for punching last years survey data are being developed with a view to establishing some relationships of types of fishing, tenure, and boat ownership.

19. MISCELLANEOUS

A. Meetings, Talks and Visitors

- | | |
|----------------------|---|
| August 29 | -Houk, Dr. Thompson, Moss Landing Marine Laboratories personnel, and Dr. Mattison dove at Pt. Lobos, Carmel Point, and in Carmel Bay. |
| September 4, 5,
7 | -Gates served on Association Marine Biologist's oral boards in Sacramento and Los Angeles. |
| September 5 | -NMFS, Tiburon staff members toured the Marine Culture Laboratory, Granite Canyon. |
| September 5 | -Carlisle met with Mary Wright of Marine Biological Consultants, who visited the laboratory to obtain information on the six year trawl study of Santa Monica Bay. |
| September 6 | -Carlisle and Mall attended a meeting with Mr. Robert Bulkley of the Navy and Region 5 personnel to discuss the Navy's fish and wildlife management plan for San Clemente Island -- Long Beach. |
| September 7 | -Phillips attended a Regional Water Quality Control Board meeting--Oxnard. |
| September 8&9 | -Miller attended Central California Sportsmen Council Quarterly meeting in Morro Bay. |
| September 11 | -Frey met with Tom Thompson and Marston Sargent at Moss Landing to discuss squid studies. |
| September 11 | -Phillips attended a Santa Ana Watershed Planning meeting on Upper Newport Bay--Riverside. |
| September 12 | -Gates, Richardson, and Frey attended a Marine Research Committee meeting in San Francisco. |
| September 17&18 | -Gates attended a NMFS tuna meeting in San Diego. |
| September 18 | -Three San Francisco TV stations spent the day aboard the N. B. SCOFIELD off San Francisco interviewing the personnel and filming crab trapping and trawling operations for news broadcasts. |

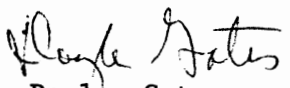
- September 19 -Phillips attended a meeting with Southern California Edison and other agencies to discuss a monitoring program for the Long Beach Combined Cycle Plant, Long Beach.
- September 19&20 -Gates attended Regional Manager/Headquarters staff meetings.
- September 21 -Greenhood, Frey, Grossi, Petrovich and Spratt met with members of industry to discuss regulations concerning the herring fishery in San Francisco and Tomales Bays.
- September 24 -Carlisle attended a meeting of the South Coast Regional Commission--Redondo Beach.
- September 24 -Jack Melor from Naval Postgraduate School, Miller, Houk, and Hardwick discussed possible research possibilities with kelp bed fauna and flora--Monterey.
- September 24 -D. Wilson and Jow discussed the San Francisco proposed outfall trawl survey with L. C. Walden and M. Moriguchi of Brown and Caldwell; Menlo Park.
- September 26-28 -Gates and Kaneen participated in Marine Patrol activities off southern California.
- September 29 -Hardwick met with T. Thompson, G. Cailliet and E. Osada of Moss Landing Marine Laboratories to discuss their sablefish Sea Grant program.

B. Personnel

- August 31 -Gordon Cribbs, Fish and Game Warden, Marine Patrol Long Beach, promoted to Captain, Long Beach.
- August 31 -Gary Paoli, Fish and Game Warden, Marine Patrol Long Beach, transferred to Eureka.
- August 31 -Stephen Crooke, Assistant Marine Biologist, Pelagic Fish, Long Beach on leave of absence.
- September 11 -Robert J. Mahon, Fish and Game Warden, Marine Patrol Port Hueneme, appointed.
- September 11 -Larry Davidson, Fish and Game Warden, Marine Patrol, Long Beach, appointed.

September 18 -Richard Moe, Jr. Aquatic Biologist, Environmental
and Behavioral Studies of Coastal Sportfishes,
Long Beach, separated.

September 21 -Susan Dezarov, Steno II, Marine Technical Informa-
tion Center, Long Beach, on leave of absence due
to maternity.


Doyle. Gates
Regional Manager

MRR-LB/200
10-3-73/cc

A. ARREST REPORT

Number of persons arrested as compared to same periods last year:

<u>337</u>	<u>384</u>
Same Month Last Year	Current Month
<u>2410</u>	<u>2764</u>
Total Arrests Same Period Last Year	Total Arrests This Year

Remarks - To explain any marked changes in above totals _____

Fines paid.....	<u>\$ 10,762.00</u>	<u>\$ 16,107.00</u>
	Same Month Last Year	Current Month
Total fines to date.....	<u>\$ 79,952.00</u>	<u>\$ 86,462.50</u>
	Same Period Last Year	Same Period This Year

Remarks - To explain any marked changes in above totals _____

Jail days served.....	<u>4</u>
Jail days suspended.....	<u>185</u>
Cases Dismissed.....	<u>10</u>
Cases in which all of fine was suspended.....	<u>44</u>
Juvenile cases turned over to juvenile authorities or parents contacted.....	_____
Hunting licenses revoked by court.....	_____
Hunting licenses suspended by court.....	_____
Sport fishing licenses revoked by court.....	_____
Sport fishing licenses suspended by court.....	_____

Summary: Following is the number of violations prosecuted against type of violation.

Hunting, no license.....	<u>196</u>
Waterfowl.....	<u>1</u>
Deer.....	<u>3</u>
Pheasant.....	<u>77</u>
Resident small game.....	<u>4</u>
Doves and pigeons.....	<u>2</u>
Mountain lion.....	<u>5</u>
Bear.....	<u>9</u>
Raptors.....	<u>54</u>
Loaded gun in car.....	<u>27</u>
Baited pond shooting.....	<u>1</u>
Protected nongame birds, fully protected, rare or end. species	<u>2</u>
Litter.....	<u>3</u>
Public shooting area trespass.	<u>3</u>
Trespass (2016-18).....	<u>3</u>
Prohibited species.....	<u>3</u>
Angling, no license.....	<u>3</u>
No inland stamp.....	<u>77</u>
Trout.....	<u>4</u>
Striped Bass.....	<u>9</u>
Other inland fish.....	<u>54</u>
Angling more than one rod.....	<u>27</u>
Clams and shellfish.....	<u>1</u>
Commercial abalone.....	<u>3</u>
Commercial lobster.....	<u>3</u>
Commercial fish.....	<u>3</u>
Commercial fish records.....	<u>3</u>
Ocean sportfish.....	<u>3</u>
Pollution (5650) (Oil).....	<u>3</u>
" " (Other).....	<u>3</u>
Stream obstruction (5948).....	<u>3</u>
1601-1602.....	<u>3</u>
Miscellaneous.....	<u>3</u>
TOTAL	<u>384</u>

B. ASSISTANCE TO OTHER LAW ENFORCEMENT AGENCIES

1. Number of cases filed by Wildlife Protection officers for violation of Penal or other code sections.....	0
2. Number of cases filed by Wildlife Protection officers for city or county ordinances.....	0
3. Number of cases turned over to federal agencies for filing.....	0
4. Number of cases of assistance to other agencies resulting in filing of charges (not included in 1, 2, or 3 above).....	0
5. Number of cases involving felony charges.....	0
6. Section 151 Harbors & Navigation Code _____	0
Total Fines Paid	cases

C. DEER ACCIDENTALLY KILLED

1. Road kills by motor vehicles	_____
2. Kills from other causes (railroads, canals, dogs, etc.)	_____

D. HUNTER SAFETY REPORT

1. Hours spend on Hunter Safety Training.....	_____
2. Hunter Safety classes attended.....	_____
3. Hunter Safety instructors contacted.....	_____
4. Hunter Safety instructor applicants interviewed.....	_____
5. Hunter safety instructor training classes conducted.....	_____
a. Number of instructors attending.....	_____
6. Public agencies (law enforcement agencies, recreational departments or districts, schools, etc.) contacted about Hunter Safety.....	_____
7. Private organizations (service clubs, Boy Scouts, sports- men clubs, etc.) contacted about Hunter Safety.....	_____
*8. Expenses charged to Federal Aid W58H1 during report period...	_____
*9. Mileage charged to Federal Aid W58H1 during report period....	_____
*Regional Hunter Safety Coordinator Federal Aid W58H1 Employees only.	
10. Narrative report of highlights in Regional Hunter Safety activities. (Use space below or additional sheets):	